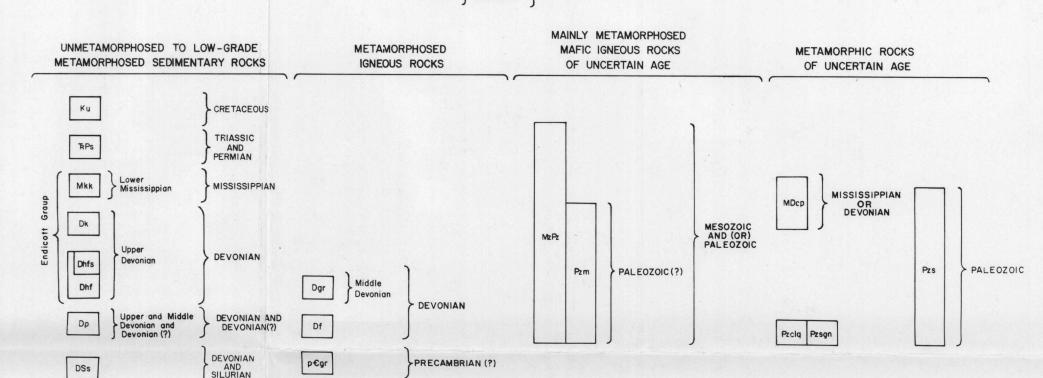


# FOLIO OF THE SURVEY PASS QUADRANGLE, ALASKA MISCELLANEOUS FIELD STUDIES MAP MF-1176-B GRYBECK AND NELSON-STRUCTURE INTERPRETATION

CORRELATION OF MAP UNITS

UNCONSOLIDATED DEPOSITS

Qu Holocene and Plaistocene



## DESCRIPTION OF MAP UNITS Unconsolidated Deposits

Qu SURFICIAL DEPOSITS, UNDIVIDED

#### Unmetamorphosed to Low-Grade Metamorphosed Sedimentary Rocks

- Ku UNDIVIDED CONGLOMERATE--Quartz-pebble and igneouspebble conglomerate; some interbedded volcanic sandstone
- TR Ps SHUBLIK AND SIKSIKPUK FORMATIONS (Triassic and Permian) -- Pink-weathering limestone of Shublik Formation (Triassic) and black slate and chert of Siksikpuk Formation (Permian)
  - ENDICOTT GROUP (Mississippian and Devonian) -- In map area includes:
- kk KAYAK SHALE AND KEKIKTUK CONGLOMERATE (Lower Mississippian) -- As mapped, unit includes related undifferentiated clastic rocks and a few outcrops of limestone in lower (?) part of Lisburne Group
- KANAYUT CONGLOMERATE (Upper Devonian),-Nonmarine rusty-weathering quartz sandstone, ferruginous mudstone, and black siltstone, and shale. Prominent, resistant layers of black-lichen-covered light-gray quartzite. Rare conglomerate
- Dhf HUNT FORK SHALE (Upper Devonian) -- Dark-gray phyllite with minor quartz mudstone and sandstone. Upper part includes:

  Dhfs Wacke sandstone member--thick monotonous unit of interbedded rusty-weathering feld-spathic sandstone and dark-gray mudstone and shale. Locally includes thin layers of reddish-gray fossiliferous limestone

and calcareous sandstone.

- Dp GRAY PHYLLITE--Mainly gray, calcareous phyllite and muscovite schist; contains limestone beds up to 20 m thick. Locally consists of lenses of quartz-pebble conglomerate interbedded with orange-weathering, fossiliferous limestone, black siliceous phyllite, or micaceous schist
- DSs SKAJIT LIMESTONE (Devonian and Silurian) -- Massive white to light-gray granoblastic marble and orange-weathering dolomitic marble. Some interlayered chlorite schist

#### Metamorphosed Igneous Rocks

- Dgr GNEISSIC GRANITE--Medium- to coarse-grained biotitemuscovite orthogneiss ranging in composition from granite to alkali-feldspar granite. Commonly welldeveloped augens; locally cataclastically deformed
- Df METAFELSITE--Mainly quartz-albite-feldspar schist; locally porphyroblastic muscovite-biotite-quartzalbite-feldspar rocks that retain igneous textures

### Mainly Metamorphosed Mafic Igneous Rocks of Uncertain Age

- MAFIC VOLCANIC ROCKS, PHYLLITE, SANDSTONE, AND CHERT-Consists mainly of interbeds and fault slivers of
  Devonian(?) to Jurassic pillow basalt, greenstone,
  and diabase, gray phyllite, wacke sandstone, minor
  Triassic radiolarian chert, Mississippian radiolarian chert, and thin beds of Paleozoic limestone.
  Weakly metamorphosed to unmetamorphosed
- Pzm MAFIC VOLCANIC AND INTRUSIVE ROCKS--Basalt, greenstone, and altered gabbro. Unmetamorphosed to slightly metamorphosed
  - Metamorphic Rocks of Uncertain Age
- MDcp CALCAREOUS PHYLLITE--Black calcareous phyllite with thin dark-gray limestone lenses

  Pzs LOW-GRADE SCHIST--Chlorotoid-bearing quartz-muscovite schist, calcareous quartz-albite-

muscovite schist, quartzite, and rare thin limestone beds. Schist locally contains

Pzclq CHLORITIC QUARTZITE--Chlorite quartzite and chloritic quartz schist

glaucophane

Geology generalized by D.J.Grybeck

map published as part of this folio (Nelson and Grybeck, 1980)

and S.W.Nelson, 1980. Detailed geologic

Pzsgn LOW- TO MEDIUM-GRADE SCHIST AND GNEISS--Interlayered quartz-muscovite schists and orangeweathering marble. Medium-grade schist and paragneiss with garnet, biotite, and amphibole near plutons

#### GEOLOGIC SYMBOLS

- Contact--Dashed where approximately located;
- Fault--Dashed where approximately located or inferred; dotted where concealed; queried where uncertain
- Thrust fault--Dashed where approximately located or inferred; dotted where concealed; queried where uncertain. Sawteeth on upper plate
  - STRUCTURE INTERPRETATION SYMBOLS

#### Stereonet plots--All data plotted on lower hemisphere of equal-area net. Planar structures plotted as poles to the planes.

- Includes measurements of bedding, schistocity, and cleavage. In domains I and II, about one-third of the measurements are bedding. In other domains, bedding can rarely be unambiguously identified.
- Includes measurements of all lineations
   including crenulations, crinkles, fold
   axes, and other linear elements not other wise identified in the field notes.
- Includes only measurements of axial-plane surfaces of folds.

## Uncontoured steronet plots

- Foliation on  $\underline{S}$  diagrams; lineation on  $\underline{L}$  diagrams
- Fold axis
- Axial-plane surface

Contoured stereonet plots

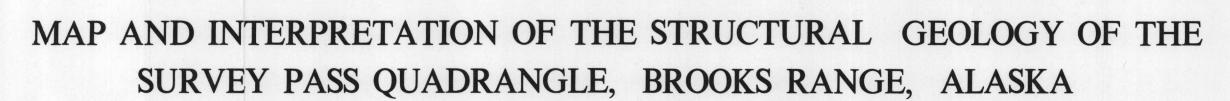
The number of "pts." to the lower right of each stereonet is the number of measurements of that particular structural element that was plotted and contoured on the stereonet.

### 7 1/2 percent of measurements

- 7 1/2 percent of measurements per 1 percent of area
- 5 percent of measurements per 1 percent of area
- 3 percent of measurements per 1 percent of area
  2 percent of measurements per 1 percent of area
- 1 percent of measurements per 1 percent of area

  Outline of area with 1/2 percent of measurements

  per 1 percent of area. Used only on diagrams
- per 1 percent of area. Used only on diagrams where contouring of 1/2 percent produces a coherent pattern; the requisite condition is generally that at least 200 measurements have been plotted
  - Domain boundary--Roman numerals refer to domains discussed in text
  - Area of Devonian granite to orthogneiss included in domain VI



SCALE 1:250 000

CONTOUR INTERVAL 200 FEET DATUM IS MEAN SEA LEVEL

By
Donald J. Grybeck and Steven W. Nelson
1981



Base by U. S. Geological Survey, 1956

DEPARTMENT OF THE INTERIOR

UNITED STATES GEOLOGICAL SURVEY